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The Role of Interpretation in Education

Interpretation

CONTIN

CONTI

Contributors
John Beck
W Eugene Cox
Eleanor J Hall
Jerry Hightower
Bob Huggins
Glen Kaye
Marti Leicester
Charles F Lennox
Stephen C McCarter
Robyn Myers
David G Orr
Edward Jay Pershey
Patti Reilly
Holly A Robinson
Suzanne Schell
Kathy Tevyaw
Martha Williams

In these days of the "Education President" and widespread concern over deficiencies in the American educational system, one hears much talk about the role the National Park Service should play in the educational community. Although most of our interpretive programs occur outside of the classroom, Park Service interpreters are educators in the fullest sense of the word. Everyday, we teach thousands of facts, explain thousands of natural and historical processes, and we hope, ignite thousands of intellectual sparks.

Do we, however, fully accept our role as educators? Do we view ourselves as equal partners with classroom teachers in educating the children (and adults) who visit our sites about the complexities of nature and the unforgettable events of human history? Although many visitors come to the parks seeking only entertainment or recreation, do we have a responsibility to weave into their activities, educational objectives designed to broaden their knowledge of themselves and the world they inhabit? Should we do more to assist classroom teachers to use park resources to illustrate the abstract concepts and bygone events they present in their classrooms?

The articles in this issue of ***Interpretation*** examine these questions. They explore some of the problems and potentialities that a stronger NPS commitment to education programs might entail, both philosophically and practically. The consensus is that such an emphasis would be a "no-lose" situation. Integrating park resources into mainstream education curricula will not only assist teachers to enliven and actualize their lesson plans, but will also bring park resources to the attention of a broader segment of the public. This can only help us as NPS interpreters to fulfill our primary obligation of helping our visitors better understand, appreciate, and protect the world in which they live.

Education of the public, whether in a classroom or a mountain meadow, is the key to the survival of our national resources. Unless we as a people thoroughly appreciate the significance of these resources and comprehend the dangers threatening them through neglect or misuse, there will be no incentive to protect and preserve them. Allying ourselves with other educators to bring our message to the public through every available means greatly improves our chances of encouraging the development of a national stewardship ethic for the preservation and protection of these irreplaceable natural and cultural environments.

Sandy Weber
Cultural Resources Interpretive Specialist
Division of Interpretation, WASO

COMPLETED

On June 15, 1990, the Interpretive Design Center at Harpers Ferry was dedicated in honor of William C Everhart who was instrumental in establishing the center and was its first manager. On that occasion Deputy Director Herbert S Cables, Jr, made the following remarks. Your editors felt that Mr Cables comments were appropriately directed to all interpreters.

Herbert S Cables, Jr
Deputy Director
National Park Service

"A song is no song until you sing it,
A bell is no bell until you ring it.
And love in the heart wasn't put there to stay.
Love isn't love until you give it away".

It's a privilege and a pleasure to be here this morning to remember and honor one of the pioneers of the National Park Service philosophy. The preceding quote could very well have been the credo by which William Everhart and his predecessors lived. Certainly we can tell by what we inherited to build upon in the National Park Service that this was more than just a job to those who came before us. Even before the national parks were rescued from the grasp of the poachers and the exploiters, Steve Mather recognized the need to educate the visitor to the values of parks. It was not enough, he concluded, to stand in awe at the rim of the Grand Canyon or in the midst of the grandeur of Yosemite Valley. To have a meaningful park experience the visitor must understand the forces that carved and shaped the land. This understanding would come only with Education and Information. Mather's Education and Information Program laid the foundation for Park Interpretation as we know it today.

There are significant differences between National Park management and management of private and public recreation and multiple-use lands. No difference is as significant as that of Interpretation—the hallmark of NPS management.

Freeman Tilden tells a dramatic story of the power of park Interpretation in his book *The National Parks*.

It happened at Crater Lake National Park, in Oregon. Just inside the rim of the crater stands the Sinnott Memorial Observation Station, situated so as to give visitors the best possible view of the lake and its surroundings. And to make understanding as easy as possible, the memorial is equipped with exhibits, field glasses fixed upon key points, and a large relief map.

On this relief model, with a scale of one foot to six miles, are depicted the prominent features of the landscape—Wizard Island, the Phantom Ship, the deep glacial valleys, and other important landforms that are part of one of the finest of our preserved natural wonders.

One summer day the then park naturalist was introduced to a man of middle age whose appearance at once whispered: "Here is a man who is different." It was not his clothes, though he was fastidiously dressed. It was not his face, though the face lit up with fine intelligence at the introduction. But there was something about the gloved hands, the walking stick hung by a curved handle on his arm, something about the erectness of his posture, the grip of his hand, that set the naturalist wondering. A pair of very dark glasses that the man wore forced the conclusion that the man was totally blind.

Blindness was not mentioned; it did not need to be. But when the visitor asked gently: "Will you describe Crater Lake for me?" the naturalist knew that he had a task before him. This man had come to SEE Crater Lake.

The poignancy of the situation gave a tug at the heart of the naturalist. How to convey to a blind man the distances, the heights, the highlights and reflections, and the forests on the crater walls—to say nothing of the blue of the water which has no counterpart? For even we who have our normal sight fall far short of full appreciation of this picture—we see only in part and understand only in part.

The naturalist had an inspiration, Freeman writes. Perhaps, after all, he could make his visitor see what he wished. He knew that with the blind the other senses usually become compensatingly acute.

"I think I can show you Crater Lake, sir," said the naturalist, "if you will take off your gloves and put your hands in mine."

The gloves came off.

"I took his hands," said the naturalist," and moved them around the crater model in relief, trying to convey through his sensitive fingertips and through his quick, eager mental perception the general shape of the crater and the variations of its rim skyline. By putting his thumb tips together, with hands extended, the little fingers accomplished the scaled diameter of the lake."

"I asked him if he had an idea of distances. He said that he could relate distances to those he experienced in walking. It was obvious that when he knew the scale spanned by his hands, he could sense the great expanse covered by the crater and its water."

Continuing, the interpreter said, "we moved the fingertips up the modeled face of Llao Rock, the two inches on the model representing the sheer face of almost twenty-two hundred feet of drop. He understood that there were two thousand more feet of the crater below the surface of the water. His fingers told him the conical shape of Wizard Island. The tiny depression at the summit of the cone gave him not only that special feature, but the type of many other craters too. He could SEE, through his fingers the naturalist said as he continued to move his sensitive fingers over the entire model. When we had finished, "the interpreter told Freeman: "My visitor thanked me and was led away." "He went away with a smile on his face. And I shall not forget that smile. He had not only seen Crater Lake. He had extended his power of seeing—which was an achievement beyond price."

Freeman, concludes his story with this statement:

"Well, we are all of us somewhat blind, even those who believe their eyesight is faultless. In viewing natural objects and scenes, the total amount we discern is nearly nothing compared with what there is to see. And when it comes to understanding the why and the how of what we do manage to see, which is vital to a feeling of its reality, we all need what help we can get." And, that, my friends, is the goal of park interpretation.

We are here today to honor Bill Everhart as one of our great national park interpreters. Born and educated in Gettysburg, Pennsylvania, Bill began his career in Vicksburg, Mississippi. He

Regional Information Survey

Alaska

Since 1987 the Alaska Region has had an urban based educational program. The Alaska Public Land Information Centers in Anchorage and Fairbanks have been the base of operations with one staff member at each serving half time in creating this program. The goal is to offer resource education to visitors, student populations, and citizens throughout the state. Resource issues in Alaska are vital to the entire nation. Providing environmental and cultural educational concepts and choices to Alaskans and beyond is a significant task. As a member of the National Park Education Task Force I have a strong commitment to its success. We have requested funding in FY 1992 to expand this vital work in keeping with the administrations commitment to education for the nation.

Pacific Northwest

At Klondike Mary Ann Mills is working with the Seattle Children's Museum and the Seattle Museum of History and Industry in the training of 157 teachers who will have a golden opportunity in the fall to participate in the "Gold, Gold, Gold" program at these three sites which includes exhibits, a play and tours.

At Craters of the Moon National Monument Dave Clark has been working with Idaho State University to provide a four day, university accredited, on site teachers training program to supplement parks staff in the providing of park programs for students.

Sue Buchel of Nez Perce NHP is organizing a large (4000) collection of photographs of the Nez Perce people and culture into a computer data base. This has permitted the community to identify family and tribal members. As a result, bridges to the community have been improved permitting the identification of some 1300 photographs. In each case, these cooperative efforts are yielding improved services for the public.

Midwest

Many parks are developing their own aids for educational and out reach programs. George Rogers Clark NHP put together "Fun'tier Adventures," a workbook to help children learn about Indians, French settlers, British soldiers, and American pioneers. Mound City Group NM designed an educational program with different themes and goals for each group. Cuyahoga Valley NRA takes inner city children into the wilderness of the Park for overnight camping trips. The Paul Douglas Environmental Study Center at Indiana Dunes NL is in daily use with thousands of youngsters from the Gary and Chicago areas. In Saint Louis, JNEM Interpreters produced a trunk full of fascinating items along with a slide program to help children learn about Westward Expansion; the trunk is mailed to schools. Voyageurs NP uses "the Duck," a fascinating and versatile landing craft to take kids across the lake for discovery excursions on the islands. Park education adds valuable dimension and insight for which park resources are ideal.

Western

The 1990 Western Regional Interpreter's Workshop was held at Tucson, April 30-May 5. Topics included: Multi-Cultural Issues in Our Changing Society; Native American Issues; Education's Role in Interpreting Cultural Resources, Interpretation's Role in Protecting Archeological Resources; Collections Management in the NPS; Interpreting the Columbus Quincentennial; Military History; Interpreting Recent History; Interpreting Cultural Resources in Natural Area Parks; European Influence on the American Southwest; and Managing Natural and Cultural Resources in an Urban Setting.

Rocky Mountain

Personnel changes within the Regional Division of Interpretation have kept everyone on their toes. Thea Nordling will coordinate interpretive projects with Harpers Ferry Center; Bill Sontag will assist RMR Regional Director Mintzmyer in coordinating in-house activities relating to the NPS' 75th Anniversary in 1991! Ron Thoman of Cuyahoga Valley NRA was selected as the new helmsman to steer the interpretive division on a true course. Ron brings to the job a wealth of field experience encompassing cultural and natural resources in urban and rural settings on both coasts and in the country's heartland.

The 1990 season 12-city tour by the "new age" musical group Mannheim Steamroller has raised more than $80,000 for Yellowstone's fire recovery program. Under the provisions of a memorandum of agreement between the musicians and Yellowstone's cooperating association, a percentage of the royalties from CD and cassette tape sales and half of the net profits from each concert are turned over to the association to support the park's fire recovery projects.

Southwest

At a recent training session in Ganado, AR, Dr Farren Webb of Fort Lewis College observed that the world of "Leave It To Beaver" is rapidly disappearing. In 1950 the United States population was 90% Anglo and 10% minority. In the year 2020—just 30 years away—the population will be 52% Anglo and 48% other races. This is a profound change.

It is important to recognize, that because different cultures learn in different ways, not everyone conforms to the rigid classroom structure. According to the educators Ramirez and Castaneda, most minority groups grow up in environments that foster "field-sensitive" learning styles. The field sensitive learner does better in group activities where there is strong emphasis on verbal activities. He or she is also likely to have difficulty with unstructured materials.

The high school dropout rate in the United States for Blacks, American Indians, Alaskan Natives, and Hispanics is about 35%. We need massive changes in the structure of park educational programs to avoid the same failure rate.

Education

The Role of Interpretation

Excellence in Education: The National Park Service

Dr Holly A Robinson
Member, NPS Advisory Board
Chairperson, Education Committee

The National Park Service has a long and respected history in education and interpretation. Educational programs based on national park resources, and the themes of promoting the environment and appreciating our national heritage, have put the parks in a unique position. They provide the American people and visitors from around the world with an immediate field of resources to see, touch, hear, and feel. This interactive stimulation is a gift only a system with such natural and cultural resources can provide.

President Bush has set forth new criteria for educating our nation's youth, and Secretary Lujan has targeted this special initiative of the administration in the Department of the Interior. He has established Excellence in Education as a key area Interior will pursue during this administration. Our Director, James Ridenour,

President George Bush participates in an Everglades National Park environmental education camping program with supervisory park ranger David Kronk and students Pankaj Mehta, Luis Villa, and Uchenna Ukaegbu from Sunset Elementary School, January 19, 1990.

and the entire National Park Service is proud to be part of the mission to raise the standards of education and make quality education accessible to all Americans. It is an opportunity for the National Park Service to become more active, involved, challenged, and recognized as one of the major participants in the administration's educational goals.

One of the steps taken by Secretary Lujan in this special initiative was to charge the National Park Service Advisory Board to establish an Education Committee. The Secretary is interested in recognizing how the parks can be better used to support literacy, expand use of the parks as outdoor laboratories to enhance education in the natural and social sciences and in history, and educate the public on the importance of park resources. This is an exciting challenge and opportunity.

The first step for the Education Committee is to become more familiar with a sample of interpretive programs the National Park Service offers. This will help us understand where the parks fit into the Excellence in Education initiative, and how we need to expand, educate, and inform the Board, the Park Service, the Department of the Interior, and ultimately, the American people of the educational opportunities available in the parks. While it is obvious that all the National Park Service regions have unique and outstanding interpretive programs, I will use examples from the two regions with which I am most familiar.

The Southeast Region, my home territory, has a range of fine science and heritage programs. After visits to places like the Great Smoky Mountains National Park, Cape Hatteras National Seashore, the Chattahoochee River National Recreation Area and numerous others, it was apparent that the educational opportunities available to school systems, disadvantaged youths, history buffs, teachers, and the public in general is varied, intellectually challenging, and pedagogically sound. Many of the programs and curricula are developed in association with school systems, education boards and universities. Almost every park in the Southeast Region has developed some type of cooperative agreement with area schools to serve as a classroom laboratory for students. In an effort to expand their initiative in reaching out to children at risk, parks in the Atlanta area are participating in an Adopt-A-School and a "Summer in the Parks" program aimed at enhancing appreciation of these youths for the natural and cultural heritage all Americans share.

The Western Region, the area where I formerly lived and worked, also has a range of interpretive programs that address adult visitors, school children, and community groups. The USS *Arizona* Memorial has actual survivors of the December 7, 1941, attack on Pearl Harbor using photographs and other exhibit materials to describe the attack from their personal perspective. The Golden Gate National Recreation Area-Muir Woods National Monument has a superb program of teacher workshops conducted by Park Rangers and an excellent Junior Ranger Discovery Pack to provide families and school or youth groups a self-guided learning experience in the woods. The San Francisco Maritime National Historic Park provides a living history program that allows school classes to take on the roles of a ship's crew and actually spend the night aboard a sailing schooner. This program starts with workshops for classroom teachers on how to develop curricula to prepare the children throughout the year for their overnight experience aboard ship. I

have discovered that many of the school system interpretive programs in the National Park Service provide teacher materials and packages for the students, with an understanding of and attention to local and state school requirements, goals, and objectives which enhance the value and practical application of these programs.

The impact of these and the many hundreds of other outstanding interpretive programs offered by the National Park Service make a number of points very clear. The National Park Service is indeed a major contributor and active participant in the education field. The Interpretive Ranger often provides excitement, stimulation, challenge, and motivation that is impossible to capture in a traditional classroom. Therefore, as teacher survey forms indicate, different students with exceptional ability, under-achievers, disadvantaged youth, or any interested learner receives special opportunities when offered in these unique settings. The sincere dedication and skills of the Park Ranger on site is another benefit for all ages and types of learners.

How can we position the National Park Service interpretive abilities and resources so they become a leader in this special initiative: Excellence in Education? Our programs are raising the standards of education, making quality education accessible to more Americans by increasing the awareness of our cultural and natural resources.

How can the parks play an even greater role in pollution education and awareness? What specific programs address students with special needs? How are we making more schools, teachers, and students aware of the wide range of unique educational opportunities within the National Park Service? Are we able to further participate in educating children about the horrible effects of drugs? Through the Drug Abuse Resistance Education program, we send trained Park Rangers into the classroom to educate children about the harmful effects of drug abuse. Where do we go from here? How are we maximizing education for minorities and in remote areas? These are opportunities and challenges across the Service.

The Education Committee will be studying many issues. One thing is clear: The more internal and external sharing of materials and motivation between the parks, the regions, and the schools the sooner a national momentum in education will grow. We must let the American public know the National Park Service is an important part of the educational community. Fundamental learning is taking place in the National Park System for all participants. The benefactors of these talents, resources, and wealth are the American people, foreign dignitaries, and guests from around the world who have the privilege and opportunity to visit our great National Park System.

Environmental Education at Everglades National Park

W Eugene Cox
Chief of Interpretation
Everglades National Park

The Environmental Education program at Everglades National Park is perhaps the longest continuous program in the National Park Service. The program started in 1972 with teachers and students participating from five south Florida counties. The National

Suzanna Tiger leads a group of students to the Shark Valley observation tower to introduce them to this wetland habitat. The Shark Valley NESA includes a 15 mile ride through the Everglades. NPS photo by Ray Price.

Environmental Study Area is a day-long activity while the National Environmental Education Development Program provides students with a three-day camping experience.

If the basic ingredients of this highly successful program are its NESA and NEED programs, then what binds it together are the required teacher workshops. Mix in a strong commitment by teachers and a dedicated staff, and you have one of the most dynamic programs possible. The Everglades wilderness, located next door to a major metropolitan population of four million people, is ideally suited to discussing environmental issues facing the park and its citizens. The water issues that face the park also face south Florida citizens as they cope with present water restrictions.

Environmental education programs are held at two separate locations. The one-day NESA programs for fourth graders are presented at Shark Valley. The majority of our contacts are made through the NESA program. In 1989 more than 13,000 students attended our programs. Shark Valley's most distinguished "student" was Ann Ridenour, a school teacher, who attended the program with Ranger Sandy Dayhoff. Sandy has been with the program since 1972. The Royal Palm/Long Pine Key NESA is for fifth and sixth graders. Its most distinguished "student" was President George Bush who attended the program with Ranger Dave Kronk.

Our camping programs are primarily for sixth graders and these are held at the Hidden Lake and Loop Road Environmental Education Centers. These three-day camping experiences are remembered by students years after they attend. They study the fragile ecosystem of the Everglades in a variety of interesting and exciting ways.

There are additional programs for high school students, a Tree Snail NESA for fourth graders and a boat trip to Sandfly Island for sixth graders. In 1989 three Dade County Partners Awards were

presented for our support to the Dade County school system. Several publications are produced by the staff in support of the teacher workshops. An activity guide for teachers, presently under revision, is provided each participating school and is designed for use both on and off site.

Everglades National Park is very proud of its environmental education program. Over its nearly twenty year history it has managed to maintain the highest level of quality despite budget cuts and staff reductions. One measure of its quality and success is that each year we have numerous requests that we cannot honor. At the time of this writing we have seventy-two groups on a waiting list hoping someone will cancel.

It has been said before and needs repeating often, "Today's Children are Tomorrow's Leaders." Everglades National Park is one of the most threatened parks in the United States and we hope that our environmental education programs will encourage these students to become wise stewards of the land.

Excerpts from journals kept by Mrs June Ashton's sixth grade class at Sunset Elementary School after a three-day camp and meeting President Bush.

Samantha Ibarguen

The Everglades was great! It was an excellent learning experience! The most peaceful part of the trip, was Friday morning. We sat by the lake drawing, and writing our thoughts while the sun was rising.

The walk was very exciting. During the walk, the six of us talked to the President about the Everglades, the problems of the Everglades, and the wildlife.

Then, it ended, we had to leave the Everglades, and go back home. All the way home, I was thinking about my experience and how it had changed me. Had it changed me? I'll say so. I am much more water conscious, and I appreciate water more. Also, you can't forget the "walk with the President!" That was a once in a lifetime experience that I will NEVER forget!.

Stephen Vaughn

When we went canoeing, I was the rudder, my friend Pankaj was the man in the front and Mrs. Villa, a parent, was in the middle relaxing most of the time.

In pond study, we got nets and went in mud and algae trying to capture marine animals. We then put them in a big water bowl. I caught a very strange animal called a backswimmer but my friend Luis Villa lost it! But I caught another one to make up for the loss.

The President was there to learn about the Everglades. We taught him what was happening to the Everglades and some solutions.

Then he went on a hike. When he came back I shook his hand twice and he said, "How are you doing, Steve?" Do you believe he called me Steve! This is one trip that I will never forget.

Pankaj Mehta

When I first met the President I was very nervous and shy. Especially after a swarm of reporters appeared out of nowhere in three seconds. The first time I talked to the President was during an activity showing the Biscayne Aquifer. Then President Bush and I started talking like I was his long lost brother. And guess what? He's very funny too!

I learned so much from this camp. Before I came here, if someone spoke about the environment, I would say, "phooey, it's a waste of breath talking about the environment." Now I know the Everglades rests in my hands. I know this experience will stay with me forever.

David Holland
Last week I just came back from Hidden Lake Interpretive Center. It was fun from the time I was dropped off at gate 13 to the moment we got picked up at gate 13 three days later. My favorite part about it wasn't the Presidential visit, although I'll remember it all my life, it was taking the night hike and watching the sunrise over the Everglades.

I liked it so much because I realize that in 30 years the park could be nothing more than concrete. Or if it is lucky, half of it will be concrete.

The Significance of Heritage Education

Suzanne Schell
Former Staff Curator
Curatorial Services Division,
WASO

Note: The following excerpts were taken from a paper presented to the Mid-Atlantic Advisors and Program Council of the National Trust for Historic Preservation on April 8, 1989.

History is the collective memory of a civilization. It is the story of ideas, people, events, and places in the past. This history is embodied in the heritage we inherit from those who have lived before us. That heritage survives in three forms: the written word, material culture, and oral traditions (such as folklore, music, and historical processes). All three forms survive as evidence of the past. Each should be examined in the context of the others.

Preservation of this three-fold heritage is critical to the survival of our nation's cultural memory. Just as a person with amnesia is bewildered, a people without its collective memory is adrift, unable to chart a future course because it has no knowledge of where it's been.

Heritage education is necessary because it teaches students how to look at the historic environment and comprehend its meaning. Buildings and landscapes do not speak for themselves. Just as we learn to speak and write, we must learn the non-verbal language of material culture. By learning to "read" architecture, objects, and landscapes, we decode the messages embodied therein.

Visual literacy, or "learning to look," is an important skill that students can apply in their everyday life. Houses, schools, churches, farms, commercial and industrial sites take on new meanings for students when viewed from this perspective. They connect students to their community in a pluralistic society and nurture continuity in a rapidly changing culture.

In *American Memory: A Report on the Humanities in the Nation's Public Schools*, Lynne Cheney, Chairman of the National Endowment for the Humanities, succinctly stated the challenge before us: "A system of education that fails to nurture memory of the past denies its students the satisfactions of mature thought, an attachment to abiding concerns, a perspective on human existence." Cultural literacy is essential for all Americans. Heritage education gives tangible substance to the abstract study of history.

In October 1987, the Ad Hoc Committee on Elementary-Secondary Education of the National Council for Preservation Education pub-

lished *A Heritage at Risk: A Report on Heritage Education (K-12)*. The committee cited several reasons why it believes our heritage to be at risk.

Despite the remarkable collection of sites singled out for protection by preservation groups and agencies, the general public perceives that these sites have an economic benefit only to an exclusive enclave. In the opinion of the broad public, these sites do not constitute a valuable resource for the common good. Symbolically, this heritage has lost its meaning as well as in popular perception, now possessing a superficial significance akin to conventional patriotism.

Because this heritage does not seem to relate to most people's everyday worlds, the committee contends that historic environments are relegated to the marginal area of recreation and tourism as epitomized by the idealized, sanitized, diminutive-scale Main Street USA at Disneyland/Disney World and other theme parks.

One of the major reasons that our heritage is in jeopardy, according to the committee, is that historic preservation has forgotten about the future. Understandably, preservationists have concentrated their efforts on the urgent need to preserve historic sites today. Because of the fluctuations of the economy during this decade, preservationists have been preoccupied with tax credits and economic incentives to make preservation attractive to developers. But what will be the future of historic sites saved for the present if sufficient attention is not devoted to educating the next generation who will be guardians of this heritage in years to come?

The committee argues that heritage education addresses these risks by "democratizing the historic landscape and making it accessible to large numbers of young people for the widely supported public good of education." Everyone uses things and buildings. The fact that buildings figure in the daily life of us all and can be experienced sensorially—that is, seen, touched, walked around and through—makes architecture a unique prism for the study of history and other subjects. Heritage education also gives students a sense of place, an increasingly rare experience in today's transient society. By heritage education, the committee means those programs that introduce the historic built environment directly into the educational process at the elementary and secondary levels.

An investment in heritage education today is an investment in the future of historic preservation tomorrow. Consider the public policy implication of heritage education. What good does it do to save historic sites without preparing the next generation to protect those cultural resources in the 21st century when, presumably, they will become even more endangered than now?

In an age that values change for the sake of change, historic resources represent a fragile window on the past for young people. Let us instill our youth with a preservation ethic, grooming them for the stewardship role that we must entrust to them in decades to come. I can think of no more compelling case for heritage education.

Developing Education Programs: The First Step

Patti Reilly
Environmental Education Specialist
Gateway National Recreation Area
Kathy Tevyaw
Education Specialist
Lowell National Historical Park

Interpretation addressed to children (any, up to the age of twelve) should not be a dilution of the presentation to adults, but should follow a fundamentally different approach. To be at its best it will require a separate program.

Tilden's Sixth Principle of Interpretation

Interpretation for students and teachers does indeed require a different approach. Reaching the school audience, getting the word out, and developing curriculum-based programs are all factors which must be carefully considered before launching an education program. In the last two years we have witnessed a new interest and a renewed commitment to education in the National Park Service. The "Twelve Point Plan" and the "Interpretive Challenge" chart a course for interpretation involving closer ties with communities and schools; establishing parks as major centers of learning. This partnership is critical to ensuring the preservation and protection of our natural and cultural resources as well as the future of the National Park Service.

What is so different about a school program? The principles of interpretation do not change; however the approach must be consistent with the experience of the visitor, which in this case is the student. A school group has its own identity and is part of a larger group which has its own set of objectives. Essentially what this means is that we need to identify the elements of the park story most appropriate for a particular age and/or grade and relate it back to the school curriculum, realizing that in some parks it may not be appropriate to serve every grade level due to the subject matter. It is this process that separates a school program from one for the general public.

Gateway National Recreation Area and Lowell National Historical Park have been able to build on partnerships with educational institutions and organizations to establish education programs. This support has proven to be invaluable in designing interactive and interdisciplinary programs that meet school and park goals. The Gateway Environmental Study Center, a facility and program operated jointly by the New York City Board of Education and the National Park Service, serves children and teachers throughout the New York metropolitan area and is part of a network of environmental educators who work together to enhance students understanding of the world around them. The Tsongas Industrial History Center is a joint project of the University of Lowell and the National Park Service to provide an experiential learning center/activity based museum for teachers and students to better understand industrial history.

These centers have served as models for other parks and organizations providing guidance on programs and administrative procedures. After comparing notes we realized that the questions and comments were very similar with many interpreters voicing frustration at not knowing where or how to begin. Core interpre-

tive training courses included techniques for children's interpretation but did not include how to develop education programs. Cindy Kryston, Chief of Interpretation for the North Atlantic Region, also noted this gap and encouraged us to pursue the development of an education training course for the North Atlantic Region.

We identified the most frequently asked questions and drafted a set of objectives and a course outline. The overall course objectives were:

(1) To introduce an approach to the design and development of curriculum-based educational programs.

(2) To provide a theoretical basis for designing programs appropriate to development levels and learning styles.

(3) To create a network of innovative interpreters motivated to impact the quality of NPS educational services for school-age children.

It soon became apparent that this was more than a one day training session! Next was the difficult task of deciding what sessions to present and who to present them. Our original list included some thirty topics which we debated over, finally selecting the following for the final course agenda:

- State of Educational Programming in the NPS
- Benefits of Programming for Education Audiences: The Teacher's perspective
- Developmental Characteristics of Children and Audience Analysis/Learning Styles
- Elements of an Effective Program
- How to Get Started: Roundtable Discussions
- A Curriculum-Based Approach to Programs
- Developing Educational Materials
- Evaluating Educational Programs
- Fee Interpretation
- Logistics for School Groups
- Reaching the High School Audience
- Park Partnerships
- Management Perspective

The theoretical/practical ratio was extremely important and perhaps one of the most difficult aspects of planning the course. We did not want participants leaving the course questioning how they were to apply the information to their park situation. Applicants were asked to complete a pre-course questionnaire to determine their needs and to provide the presenters with a group profile.

Despite two snow storms, twenty-nine participants from the North Atlantic, Mid-Atlantic, Mid-Western, and Western regions arrived in Newport, Rhode Island, on February 25, 1990, for the first education training course. Funding support from the WASO Cooperating Association Fund, the NARO Park Support Fund and Regional Training Account made the inter-regional participation possible.

The range of experience and academic backgrounds varied among the participants creating a dynamic group of professionals excited at the prospect of breaking new ground. Realizing the

importance of their input and evaluation they worked hard to produce a product to take back to their parks.

In addition to the formal sessions, field trips were arranged to the Mystic Aquarium, Mystic Seaport Museum, and Alton Jones Environmental Education Center. Participants were asked to focus on several program areas and analyze specific elements of the operation and report back to the group. The reports triggered interesting discussions on publicity, program development, fees, resource materials, and staff development. The evaluations prompted comparisons to Park Service programs pointing out some of the strengths and weaknesses.

Curriculum correlation is an important step in the program planning process. Each participant was asked to develop an education program outlining the target grade, curriculum correlation, activities, and follow-up. During the group exchange participants were able to learn from each other as well as from the facilitator. One could not help but notice the energy and enthusiasm with which the participants spoke.

The overall course evaluations are positive and indicated that more time is needed for each topic with a planned follow-up. This course is the first step and should be followed by a national course next fiscal year to continue the development of and commitment to education programs in the Service. During the week we had the opportunity to meet interpreters dedicated to their profession and concerned about the future of interpretation...definitely a rewarding experience!

The High School Program at the Jefferson National Expansion Memorial

Eleanor J Hall
Interpreter and Museum Education Assistant
JNEM Historical Association

Two years ago when I first became a National Park Ranger, I pictured myself hiking resolutely up the trail, walking stick in hand, leading a group of happy campers. Sometimes I was standing by a moonlit lake, enthralling visitors with my inimitable campfire talks.

Instead, two years later, I found myself hiking resolutely up the steps of an inner city high school in St Louis, Missouri, briefcase in hand, hoping someone would just listen—never mind enthralling anyone.

It was a new image for me, that of an urban park ranger, bringing a message to a class of high school students who probably didn't want to hear about it. But, to my surprise, they **did** want to hear about it, and from that dubious beginning, the high school outreach program at the Jefferson National Expansion Memorial was born.

Although JNEM has an extensive museum education program which serves dozens of elementary and junior high schools annually, senior high schools rarely take advantage of it. A 1988 NPS survey showed this to be generally true in National Parks throughout the country.[1] One reason for this lack of participation is the

[1] *Urban Interpretation for the High School Audience: A National Perspective*, Horace Albright Employee Development Fund Project, 1988.

difficulty of arranging field trips around high school scheduling. Also, in St Louis at least, by the time the students reach high-school, most have been to the museums several times and have heard the standard programs over and over. Therefore, when we went into our first high school last fall, we designed a new program specifically for high school students adapted to their scheduling needs.

Theodore Roosevelt High School is a large inner city school with a racially mixed student body. Our first contact with them was arranged by the St Louis Partnership Office, a local organization that pairs educational providers with learners. In this case the learners were three freshman social studies classes taught by Sue Findley.

The subject matter for the four-part program was prejudice and discrimination, a topic of genuine concern in a racially mixed school. Since the museum at JNEM is about Nineteenth Century westward expansion, our program centered around minority groups in the old west—Black and Hispanic cowboys, Chinese gold miners, Black homesteaders—and how they overcame obstacles.

The visits were reciprocal. I went to Roosevelt twice and the students came to the Museum twice. By the fourth visit, we had become well acquainted. Sue Findley and I began to explore other ideas for involving students at JNEM. One of these is "Ranger-for-a-Day." A few students selected by Mrs Findley spend one Saturday working with Rangers at the Gateway Arch. Our first "Ranger-for-a-Day" was quite successful and we plan to do it again with different groups of students.

Another feature of our high school program at Roosevelt was a written assignment required of each student about one of the racial or ethnic groups we studied. Students responded with poems, songs, raps, diary entries and letters. When I made my last visit to Roosevelt, they read and performed their works for me. Mrs Findley later bound them in a notebook which she presented to us.

Since JNEM programs were little known at Roosevelt, I explained them at a faculty meeting, emphasizing our willingness to meet teachers' special needs. As a result, one of the math teachers requested a program on early surveying techniques. Ranger Jim Jackson obligingly developed and presented a two-part program on that subject.

What do we expect in return for our efforts? for one thing, high school programs provide an excellent forum for recruitment. Provision was made to employ three high school students as interns this summer at JNEM, and the high school programs gave us an opportunity to look for promising young prospects.

In May, our recruiting efforts succeeded when three student interns were hired from St Louis high schools. All three, Jacquelyn Hall, Jacquelyn Sutton, and Steve Rix, are capable, conscientious employees who quickly adapted to the busy summer schedule at JNEM.

Plans have already been made with the Partnership Office to present World of Difference programs in St Louis high schools again this fall.

For those who may be considering a high school program, the following suggestions are offered:

1. Be prepared to devote a lot of time and thought in developing programs to interest high school students.

2. Use versatility in programming. We had no standard program for a math class so we derived one that was in keeping with our theme of nineteenth century westward expansion.

3. Move away from standard, traditional practices when the need arises. For example, if students can't come to you, take your program to them.

4. If your community has other agencies that work with high schools (such as the Partnership program mentioned above) enlist their help. They may make your task easier.

5. Be on the lookout for special teachers who go out of their way to provide unique experiences for their students. It was teacher Sue Findley who provided much of the impetus for the Roosevelt High School program.

6. Above all, don't assume that high school students have no interest in what you have to offer. Concentrate instead on making what you have to offer interesting to them.

A Ranger On the Faculty: Interpretive Partnerships In the Classroom

Jerry Hightower
Chattahoochee River NRA
John Beck
Southeast Regional Office

The Chattahoochee River Recreation Area is a series of intermittent land units strung along a 48-mile stretch of the river, as it passes through Metropolitan Atlanta. Although a wide variety of cultural and natural resources are to be found within the park boundaries, the primary visitor activities—hiking, jogging, fishing, and boating—are heavily concentrated in only a few sections of the park. Visitation is generally of short duration. Many users are not aware that they are in a national park and initial ranger contact, therefore, is often the result of violations or emergencies. These factors, coupled with dense urban development, often lead to severe impacts on park resources. With these characteristics in mind, what role should interpretation play in this urban park surrounded by three million people?

The park's Interpretive Prospectus (1989) provides us with three interpretive goals:

- to promote the safe, non-consumptive use of the park
- to increase recognition of the role of the National Park Service, and
- to cooperate with other groups, institutions, and individuals in providing recreational activities for the Atlanta metropolitan area.

One highly successful program that addresses all of these goals is a partnership called the Mt Bethel Elementary School Environmental Education Outreach Program. The school serves an affluent community adjacent to the river in Cobb County, about 15 miles north of downtown Atlanta. Developed in 1986 by Park Ranger Jerry Hightower in cooperation with the Chattahoochee Nature

Center, the program consists of an eight week, comprehensive natural science curriculum for third year students. The program is the natural science instruction block for the entire school year. In other words, it is the entire natural science curriculum, not a supplement. It relates natural science to each student's life, school, community, and, in particular, the Chattahoochee River corridor. In its three years of operation, the program has received an overwhelming positive response from students, parents, educators, environmentalists and many others.

This outreach program, and any such program presented through the Georgia public schools, requires a basic working knowledge of the Georgia Quality Basic Education Act and the Georgia Quality Core Curriculum. It is imperative that the National Park Service staff developing and presenting the program be able to demonstrate that the children will be "on task" during the program. Rangers must be able to show that certain skills, including analysis, comparing similarities and differences, description, and observation, are involved. Essentially, the park ranger becomes the classroom teacher and is responsible for instructing skills and concepts relating to the science curriculum.

Over the past three years, activities at Mt Bethel have included the following:

1) Natural Science Unit: The eight week long natural science unit for each of the eleven third year classes involves one hour of classroom instruction each week. Rangers provide the teachers with follow-up activities for an additional instruction hour.

2) Special Projects. Rangers and nature center staff develop long-term projects for the third year students each school year.

3) Requested Special Projects: Teachers from all grades can request assistance on programs or special programs for their classes. Projects have varied from wildflower planting to endangered species to general descriptions of the Chattahoochee River National Recreation Area.

4) Teacher In-Service Staff Development Training: Each year, the project staff offers the Mt Bethel teachers a three to six hour training session on how better to use the school's outdoor classroom area and more effectively incorporate environmental education in their classrooms.

Some Examples

The last lesson plan for the in-class natural science unit calls for a culminating experience to tie together all of the previously learned concepts. The lesson begins with students being divided into pairs. Each student receives a card with the name of a reptile, mammal, or bird found in the Chattahoochee River National Recreation Area. The partners then take turns asking "yes or no" questions concerning characteristics of the animal groups in an attempt to guess their partner's animal. To illustrate the impact of human occupation on the region, the rangers wheel a large sandbox into the classroom. They proceed to carve out a river valley and fill it with miniature trees and animals. Using cardboard cutouts, the students proceed to develop the land. First come the paths, the roads, farmhouses and grist mills. Then the first towns appear, soon to be

followed by mills, dams and other indications of industrialization. Soon the Chattahoochee River corridor is filled with subdivisions, shopping centers, schools and expressways. As each stage of development occurs, the students must remove the trees and animals. In the midst of the development, the students decide where and how much land along the river is to be left as a park. Thus, in their time lapse journey, the students use the natural science vocabulary, information, and concepts required of third year students in the Georgia public schools. At the same time, they have the opportunity to develop an awareness of the Chattahoochee River park and its vulnerable place in a rapidly expanding urban environment.

Two long-term projects at Mt Bethel involve the planting and nurturing of Buccaneer Garden. As a result of a 1987 project, three hundred Loblolly and Virginia pines now stand as a living wall which blocks the garden from a busy nearby road and provides cover, nesting sites, and seed for birds. In the second project, also initiated in 1987, each class grows salvia, a flower that is most attractive to hummingbirds. The students plant the seeds and monitor the growth process through the seedling stage. When the plants are several inches tall, teachers from the Chattahoochee Nature Center assist the students in planting seedlings in the class circle in the garden. These activities represent a living, life-time investment in the development of positive environmental ethics.

From the point of view of all people involved, a great number of direct benefits have flowed out of this partnership. The third year students at Mt Bethel have a better appreciation for "their" national park and the natural resources that the National Park Service is charged to protect. However, their families have also benefited from this program because, in many cases, the students have shared the information at home. Rangers who have encountered parents in the park say that parents often mention how much they have learned from the program through their sons and daughters. The park ranger's weekly appearance at the school resulted in other benefits, including the opportunity to meet the other six hundred students and staff members in a positive manner. Rangers also presented brief "hands-on" wildlife programs for the kindergarten classes.

This immensely successful partnership between the Chattahoochee River National Recreation Area, the Chattahoochee Nature Center and Mt Bethel Elementary School has created a positive, professional image for the Service within the Mt Bethel community. It has done so by increasing the knowledge of the role, mission, and resources of the park and has influenced many other school systems throughout the region to view the Chattahoochee rangers as an important social and natural science education resource. But the park staff is not satisfied with just one successful partnership. Negotiations are already underway to bring a similar program to another school in a less-affluent part of Metropolitan Atlanta. It will be interesting to see how well the program works in another community. Obviously, some changes are in the offing, but, based on the past success of this partnership and its ability to touch people, changes will be made and challenges will be met.

Education: Moving Bravely Into the 21st Century

Bob Huggins
Natural and Urban Area
Interpretive Specialist
WASO

Twenty years ago, on April 22, the first "Earth Day" was held. Many believe that day heralded the beginning of the environmental awareness movement. Actually, the National Park Service had long been involved in education and environmental awareness since its very beginning. Around 1940, the term interpretation was substituted for education, but the process remained the same: provide educational experiences to visitors of the National Parks.

The results of Earth Day 1970 did, however, have an impact on the National Park Service. The public's interest in the environment grew rapidly and soon words and phrases like "ecology," "biosphere," "pollution," and "web of life" were becoming a common part of everyone's vocabulary. Not only were adult visitors becoming more sophisticated, their children were being exposed to increasingly complex theories regarding the natural world. The park interpreter could no longer get by with a "cutesy" slide program about the animals in the park; people wanted to know more!

In the late sixties the National Park Service embarked upon a centralized (WASO based) environmental education program which concentrated on Servicewide program and curriculum development. During that period, many programs were developed including: the National Environmental Study Area program; the National Environmental Education Development program; the Students Toward Environmental Participation program; the National Environmental Education Landmark program, as well as curriculum developed by contract with the Silver Burdett Company.

The program met with mixed reviews. On one hand, the curriculum developed by Silver Burdett was of very high quality, but sometimes too generic to be incorporated into existing (and sometime archaic) school lesson plans. Site specific curriculum developed in the parks was often developed in a vacuum. Good, solid interpretive materials were compiled into a student's workbook or teacher's manual without ever consulting the needs of students or teachers. I remember writing a *Teacher's Manual for the Oxbow Bend NESA* and a student workbook for the *Joe Phiffer Homestead NESA* at Grand Teton National Park. I asked teachers in the Teton County School District to review the final copy. The reviews were good, the Grant Teton Natural History Association printed up a large quantity of "glitzy" copies, I got a pat on the back, a Special Achievement Award,... and almost no one used the materials!

Another "failing" of the Servicewide initiative was that "environmental" programs and messages were injected into all park programs whether they were appropriate or not. It didn't matter whether you were in Yellowstone or at Ford's Theater, your programs had to have an "environmental" message. Many of us remember the summer of 1972 when all of our evening programs began with three slides: a smokestack spewing something horrible into the air; a telephoto shot of a gridlocked Los Angeles freeway set against a smoggy sky; and a bulldozer on a landfill being at-

tacked by hungry gulls. As a seasonal at Grand Teton giving programs at the Jenny Lake campground, I can't imagine the frustration that my counterpart at the Frederick Douglass home must have had trying to fit those slides or an "environmental" message into his or her program. And pity the poor visitors who had to sit through that preamble preachiness day after day, throughout their entire vacation in the summer of '72.

By 1975, changes in priorities and the advent of the Bicentennial began to erode the centralized environmental education program. Many parks, however, had found that environmental education was an appropriate component of their interpretive plan and continued to offer programs that were tailored to the resource and targeted schools. Their successes probably could be attributed to a combination of dedicated staff, a willingness to work directly with the educators (the users), and a park manager who saw the benefits of building a local, educated, young constituency.

In 1988, George Bush was elected President after running on a heavy education platform. The new "Education President" assembled his Cabinet and asked each member to report on what his or her Department was contributing to the education of America. Secretary Lujan, in turn, asked each of the Department of Interior Bureaus to report on education accomplishments and proposed programs.

In response to Director Ridenour's strong support of the Secretary's and President's focus on education, a working NPS Task Force was formed to study past and present practices and recommend a strategy for the future. The Task Force membership were mostly active field interpreters that had been, or were presently working with education. Also represented were members of the Washington Office Division of Interpretation, a Regional Chief of Interpretation, Harpers Ferry Center, the Division of Employee Development, the NPS Advisory Board, and the National Trust for Historic Preservation.

In January 1990, the group met for a week in San Francisco. In his Task Directive, the Director challenged the group to examine four specific agenda items in addition to formal and traditional (school oriented) programs. His concerns centered around assuring that the group look beyond the traditional definition of "environmental" education.

His concerns focused on:

- Blending Environmental and Cultural/Heritage Education.
- Examining the possibility of developing a National educational Junior/Associate Ranger program.
- Developing programs for non-academic groups such as boys/girls clubs, scouts, etc.
- Providing effective programs for inner-city audiences, children and adults alike.

By March of 1990, the First Draft of the Report was completed. At the time that this article was written, the full Task Force had not had an opportunity to review the draft, nor had the Director been fully briefed. However, the following is a general summary of the findings.

The Task Force felt that there was a strong need to increase the educational efforts of the National Park Service. It also recognized that there were indeed many fine education programs already established at the park level and that those programs where appropriate, should be used as examples or mentor programs for other areas. It agreed that the most useful curriculum was developed when the local park and local schools worked together on common needs. It totally agreed that cultural and heritage education should share the same importance as natural or environmental education and that areas should not be forced to provide educational experiences outside of the themes for which the park was established. And finally, education in the National Park System should not be viewed as a one time initiative. It should integrate interpretation, research and natural/cultural resource management programs and move bravely into the 21st century.

The environment in which we live and the preservation of our cultural past and future depends upon an educated constituency. Of all of the land managing agencies, the National Park Service has the greatest opportunity to provide quality educational experiences to the people of this nation and the world. Let us look at education, not as just another initiative, but rather embrace it as the most important jobs we do as interpreters. We have an exciting opportunity, let's take it "bravely into the 21st Century."

NPS EDUCATION TASK FORCE PARTICIPANTS

Bob Huggins (Chairperson, WASO)
Martha B Aikens (STMA)
Glenn Clark (ARO)
Sandy Dayhoff (Everglades NP)
Cquvator "Q" Gatson (Lake Mead NRA)
Julia Holmaas (HFC)
Kathleen Hunter (National Trust)
Marti Leicester (Golden Gate NRA)
George Price (Lowell NHP)
Dr Holly Robinson (NPS Advisory Board)
Kathy Tevyaw (Lowell NHP)
Sandy Weber (WASO)

From Awareness To Action: Lifelong Environmental Education

Robyn Myers
Park Ranger
Muir Woods National Monument

Lifelong Environmental Education

Although they are difficult to define, both interpretation and environmental education have the purpose of moving people from **Awareness to Action**. Environmental education has traditionally been targeted at children, yet we know it is equally, if not more important that today's adults understand the Earth and its global issues. Without an understanding and acceptance of the values of people and their cultural histories, or a genuine concern for the health, maintenance, and well-being of living (and even non-living)

things, how can anyone, child or adult, be expected to make responsible decisions regarding the future of the world? Environmental education is not just a way to study nature, it is a lifelong interdisciplinary examination of the environment in its totality — natural, man-made, social, historical — in a variety of diverse learning environments and situations. Through this process a sensitivity and appreciation for the environment can be developed that moves people from **Awareness**, through **Knowledge** and **Understanding**, to **Personal valuing**. Once a personal connection is made this becomes a motivation and purpose for **Action.**

This developmental process may take place indoors or out, in man-made or natural environments, with adults or children, and may be referred to as nature study, outdoor recreation, conservation education, or environmental education. The definitive difference among these being their primary purpose:

In *nature study* a person looks at a tree and asks, "What kind of tree is this and how does it function?"

In *outdoor recreation* a person looks at the same tree and asks, "How shall we play in it?"

In *conservation education* a person looks at the tree and asks, "How can we protect it?"

While in *environmental education* a person will study the tree, play in it, experience it and finally ask, "Trees have many uses — some must be saved, others cut down — what is best for this one?"

A primary goal of environmental education has been to help students develop a concern that addresses the problems of our world today, select an objective to study, and even take steps toward solving some aspect of the problem being studied. As interpreters, we can better reach many adult audiences by using some of the methods and philosophies we have been using in environmental education for years. But such attitudes of concern, which are the very foundation of environmental education, cannot be taught — they must be developed from existing learning situations that allow individuals to become physically and emotionally involved with what they are studying by powerful, direct firsthand experiences. The task of the teacher, then, is to create exciting learning situations where the experiences themselves teach the concepts.

This is no less true for adults. By organizing our personal, and even non-personal services interpretation in the **Awareness** to **Action** model we are more likely to reach our adult audiences with the same success rate we have experienced in children's environmental education programs over the last decade.

From Awareness to Action

The Awareness to Action Model is simple and sequential:

Awareness: Identify a theme or major objectives to explore. Then begin experiencing the theme as directly as possible, including multi-sensory explorations, *observing*, discovery, and hands-on activities.

Knowledge: Begin cognitive learning of the theme, subject matter or major concepts. Details are presented through direct instruction, discussion, exploration activities, and *communicating* ideas.

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Understanding: The "a-ha" experience takes place here as connections are made, inter-relationships are discovered, and *comparing, organizing* and *relating* processes are applied to the newly gained knowledge.

Personal Values: Explore personal feelings, opinions, and beliefs as a group or individually, *inferring* new ideas, insights and connections. This is a chance to look at things in a new way.

Action: Now to begin *applying* the new knowledge and insights by identifying problems and decision makers, discussing options, looking at use and management. Encourage everyone to take positive action, even if it is simply to make others aware.

When using the Awareness to Action Model with children, it follows a similar progression to and is compatible with Bloom's taxonomy, Guilford's model of the intellect, and Paiget's developmental theory. These important learning processes are summarized as sequential process descriptors in the California State Science Framework Addendum which are noted in the above Model with italics.

Use the Awareness to Action model sequentially when planning environmental education programs, going only as far as the appropriate level of cognitive development. For example, children under the age of six may not go beyond Awareness and some basic Knowledge of the subject matter. As adults, we repeat the entire developmental process each time we are introduced to something new. After we become aware of a new idea we begin to learn more about it, and to understand its relationship to other things and to ourselves. The more we understand, the more we care. And when we care, we are more inclined to get involved or take action.

We are all familiar with the good materials available for children's environmental education programs — Steve Van Metre's books, *Project Wild!, Project Learning Tree, Sharing Nature with Children, Living Lightly in the City*—the list goes on and on. Yet most interpreters are reluctant to use these activities with adults. Most adult programs and walks are almost entirely auditory and visual—with little or no "hands-on" experience. Programs for adults tend to focus on just the Knowledge and Understanding, without building the foundation of Awareness, nor moving beyond into Personal Valuing or Action. With just a few carefully chosen activities, and a presentation sensitive to the dignities of the adult audience, adult groups can benefit from the same experiential activities we have used with kids for years. Joseph Cornell's new book *Sharing the Joys of Nature* has helped fill this gap with activities designed for use with adults.

Progressions similar to the Awareness to Action Model can be found in many environmental education programs. The basic principles are nearly always the same. The challenge is to apply the Awareness to Action Model when organizing and planning programs and media for adult audiences.

As we become more aware of the state of the Earth's resources, our jobs as environmental educators and interpreters become critically important. Our parks, museums, zoos, and other interpretive areas have become centers for lifelong education about the environment. In the words of William O'Douglas, "Once man understands his de-

pendency on the living resources of the earth and is filled with wonder, he becomes dedicated to the task of conserving them." If when organizing our programs we follow the simple Awareness to Action Model, we are more likely to achieve our basic goal and mission of creating informed, decision-making adults, who because they care, will take action to ensure the Earth will be healthy for future generations.

Kids, Parks, and History: Making the Connection

Martha Williams
Historic Sites Specialist
R Christopher Goodwin & Associates, Inc.

The area where I live, and where I taught for over twenty-five years, comprises the National Park Service's National Capital Region. Like other regions, it contains an amazing number of sites commemorating major figures or events of American history. These sites range in scope from battlefield parks like Manassas and Antietam, to entire towns like Harpers Ferry, and single component sites such as the Frederick Douglass Home and the Clara Barton National Historic Site, or Robert E Lee's Arlington House.

Yet many of these resources remain under-used by local teachers of American history, particularly those at the secondary level. As both a former history teacher, and a former Park Service employee, I have often been disappointed by the apparent lack of contact between parks, kids, and history. The educational resources of park facilities could enliven the content of history courses immeasurably. However, specific proposals and plans are needed to connect the resources offered by these parks with the school systems that surround them. The purpose of this brief article is to suggest ways in which that connection can be made more effectively.

First, Park System interpreters need to understand what school systems need and what they can use. All school divisions have a set of curricular objectives for every discipline taught within the division. These objectives apply to every grade level; they include not only knowledge and content objectives, but also skills objectives. For example, an eleventh grade history student in Virginia must master the facts about the historical development of transportation systems, the American economy, and the Civil War. By the end of the history course, that same student should also know how to interpret primary historical source data, and to apply it to answer historical questions. Lists of learning objectives are readily obtainable from the administrators in local school systems, or from state boards of education. If park staffs are aware of the curricular goals which schools have established, they can more readily design usable educational programs for their sites.

Site interpreters also need to clarify their own interpretive objectives by identifying all of the elements of the site's history that they want to convey to the public. Most parks have already identified some of their interpretive goals. However, many parks could take a far broader view of their history, instead of confining themselves to interpreting one single event, personality, or time frame. A battlefield site understandably concentrates on portraying the military aspects of a particular engagement. However, that same

Soldiers of Company A, 10th Cavalry, Fort Concho Museum, San Angelo, Texas, presenting programs in the Museum of Westward Expansion at Jefferson National Expansion Memorial during Black Heritage Celebration. Photo by Al Bilger.

park also might broaden its interpretive focus to incorporate thematic material portraying the lives of the local residents at the time the engagement was being fought, or events of other time periods which took place on the site.

Sufficient background material for adopting this type of expanded focus is often readily available. At both Manassas and Harpers Ferry, recent archeological investigations have uncovered new information on the lifestyles of ordinary citizens who lived near these sites. This information, and perhaps even the artifacts derived from the sites, could be used to expand the interpretive scope of both of these parks. Enlarging the parameters of a park's interpretive design will also increase the number of points at which it can interconnect with the objectives established in school curricula.

Park sites are special places because they have preserved the very context in which an historic event transpired. No classroom can offer that advantage. In many classrooms, students spend their time being talked **at**, rather then **"doing"** or experiencing history. One of the most important things that park programs can do for students is to pull them out of their books and classrooms, into the authentic historic environment. Parks can make it possible for students to become part of the momentous historic events that they commemorate. Interpretive programs which invite students to participate in history through role-playing, inquiry, internships, or similar activities, will "hook" students into a site more readily than the standard lecture/tour format. During my final year of teaching,

two entire history classes became caught up in the "Third Battle of Manassas," a vigorous campaign waged between developers and preservationists over the fate of battlefield sites adjacent to the park. Their enthusiasm for history in general, and their interest in the Civil War, rose astonishingly, because they had taken an active role in history.

Opportunities for such experiential learning can vary widely. For example, sites like Harpers Ferry, Manassas, or Antietam might supply groups of students with topographic maps of the park site, and direct them to design a plan of attack or defense, much as Union and Confederate strategists did in the nineteenth century. At Great Falls Park in Virginia, similar groups might be asked to devise a system for circumventing barriers to Potomac navigation. Alternatively, they might play the roles of foremen and workers employed in constructing the Patowmack Canal—with only eighteenth century technology to assist them. Only **after** the visiting group has had a chance to explore its own theories should the audio-visual summary slide show be programmed. That way, students will have been able to come to decisions without having been previously exposed to the historically correct answers.

As a history teacher, I always appreciated facilities that could provide me with pre- and/or post-visit packets of information. These supplemental materials permitted me to plan my visits much more effectively. A pre-visit packet for a park could contain information that the site interpreter wants students to know before they arrive for their visit. Ideally, this information should "set-up" the group for receiving the message(s) that their on-site visit will convey. A post-visit packet with an evaluation form asking students to reflect on what they learned and observed can extend the range and impact of that visit. Suggestions for further study or follow-up activities would also be suitable additions to a post-visit packet.

Teachers sometimes find it difficult to justify a field trip when the objective is a single visit to a single site for only one hour. Combined visits to several related sites can produce a deeper, more intellectually meaningful, and educationally justifiable experience. Parks in a region might cooperate with other national sites, or even with nearby regional and local parks, to enlarge the breadth of students' experiences. For example, the two canals on either side of the Potomac River might cooperate to produce an inquiry on a basic question in American economic history: why some business ventures fail, while others succeed. Ford's Theatre, the Lincoln Memorial, and the Frederick Douglass Home might form a framework for a "black liberation" theme. A black history unit at Harpers Ferry might examine and contrast the black experience under pre-Civil War slavery, during the John Brown episode, and in the post-war Storer College era. The basic idea is that information which students acquire from such combined, thematic programs will be far less fragmented than the impressions they acquire from visiting a single site. The resulting deeper understanding will also provide a greater justification for the expenditure in time, effort, and funds which a school will make in arranging the visit.

Finally, many teachers are not readily familiar with the sites and programs offered by the Park Service in their region. NPS resources are great, but they could be advertised more adequately.

Regional offices of the Park Service could develop an extended brochure, explaining the programs and emphases offered by each site. These brochures also could include "nuts and bolts" information on hours, admission fees, contact persons, and the like. Both the National Archives (202-523-3000) and the National Portrait Gallery (202-357-1300) in Washington publish this kind of flyer each year. For a teacher, they are a great aid in planning special course experiences for students.

Personal contact between school staffs and park interpreters is even better, if it can be arranged. Call social studies specialists, volunteer to teach at in-service sessions, or arrange to attend departmental meetings in local schools. The important thing is that teachers know what parks are in their vicinity, and the programs that are offered. Active advertising such as this can broaden audiences considerably.

In retrospect, there are many things which I, as a teacher, wish I had done differently. One of those things would have been to use more fully the resources which were on my doorstep. Only when I joined the Park Service itself did I realize what my students and I had been missing.

Encountering the Black Experience

Glen Kaye
Chief of Interpretation
Southwest Region

A childhood in western Oregon offered, I think, as innocent and carefree an experience as one could wish. The creeks running through unplowed meadows and stands of Douglas-fir were clean and unaltered and easily accessible, and the world could be explored freely and without constraint. If you saw the movie "Stand by Me," you have an idea of what I mean.

It was a world where nature dominated experience. I don't remember significant architecture. There were no historic places in my universe. The Civil War was meaningless as was the Revolutionary War. There were no blacks, no Hispanics in town, no people (that I knew of) of any language but English. It was, by circumstance, a white, Anglo-Saxon world, wrung from more than three centuries of westward movement, Frederick Jackson Turner's end of the frontier. A sociologist would recognize it as the kind of world that funneled so many white Anglo males into careers in the National Park Service.

It wasn't until I began to explore my genealogical roots that my horizon truly expanded, and I discovered a connectedness with a larger world. A minister who crossed the Cumberland Gap and settled in Kentucky. A soldier who suffered through two bitter winters at Valley Forge. A Cambridge scholar murdered at Jamestown during the 1622 Indian uprising but who fortuitously (for me) left a pregnant wife. My history was, I discovered, interwoven into the fabric of America. It brought a pleasure I could not have anticipated.

Then in one of those encounters that destroys innocence and changes your way of thinking, I discovered slavery. The probate record of an ancestor turned up, and there before me, listed in the estate of one William Baskett of Fluvanna County, Virginia, were

thirteen humans. There was Phillis and son Morris, listed at a worth of $300. There was Frank and Rueben ($500 each) and Tom and Caty and Wilson and Bob and Milley. Dabrey (at $750) and Caty ($700) were the best of the lot, whereas Old Tom (at $25) and Old Peby (at $10) were valued at half or one fifth the price of a bay horse.

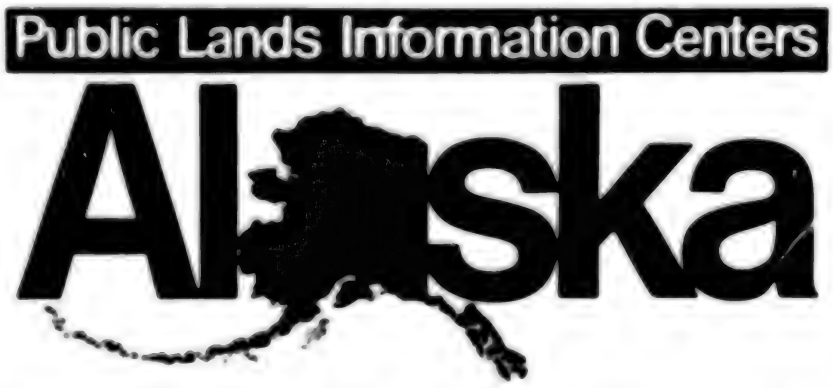
Meaningless before, I suddenly realized that monstrous institution, slavery, was not some abstract phenomenon from far away and a long time ago. My family, my people, had engaged in such things, and the poverty and crime and disparity in the quality and equality of life that exists for many black Americans to this day was shaped by such deeds.

The Black Experience, I realized, is my experience. It was and is not confined by color. It is a fabric of cultures that cannot be isolated. It requires two cultures to understand it, and two cultures to respond and bring corrective action. The last thing it should be is Black Studies solely for blacks.

In this context, the realization comes of new places to bring the theme of Black Experience into play, and wider audiences to reach with understanding of their relationship to it. The Black Experience, including its dimensions of flawed human behavior, is more accurately the American Experience for all of us.

What's an APLIC?

Charles F (Chuck) Lennox
Former Assistant Manager
Alaska Public Lands
Information Center
Fairbanks, Alaska



Videos, laser disks, and exhibits, oh my! Animal displays, native artifacts, and a car trunk, oh my gosh! Movies, stereoscopes, and aerial photographs—Toto, I don't think we're in Kansas anymore.

No, Dorothy, you could be in one of the Alaska Public Lands Information Centers in downtown Anchorage or Fairbanks, Alaska. Both located in historically restored buildings (the original Federal Buildings for each community), the Centers are a colorful and exciting place to learn more about Alaska and its public lands.

APLICs are a cooperative effort by eight state and federal agencies (Alaska Division of Tourism, Alaska Department of Natural Resources, Alaska Department of Fish and Game, Bureau of Land Management, National Park Service, USDA Forest Service, US Fish and Wildlife Service, and US Geological Survey) administratively managed by the National Park Service to provide information and referral about the state's tremendous variety of

public lands. Mandated by the Alaska National Interest Lands Conservation Act of 1980, the Tok APLIC (managed by the Alaska Division of Tourism) opened in 1984, followed by the Fairbanks Center in 1985 and the Anchorage Center in 1987. The final Center, to be located in the southern panhandle city of Ketchikan and managed by the USDA Forest Service, is expected to open within the next few years.

In the slower off-season (October-April), the Centers are a perfect place for a class or youth group to learn more about Alaskan natural history, geography, and outdoor safety. The auditorium in each Center is used to view many films on related subjects or to enjoy interpretive programs.

Large (6' x 12') relief maps of Alaska and surrounding areas provide an excellent opportunity to discuss geology, geography, weather patterns, history of travel, and exploration or ecological patterns of the north.

The main exhibits in both Centers focus on the six major regions of the state (Southeast, Southcentral, Southwest, Interior, Northwest and Far North) with information on natural history, climate, and recreational opportunities. Separate video monitors for each region have four to six laser disk programs on various topics pertinent to each region. Other exhibits include Native culture and outdoor safety.

In the Anchorage Center, a half-summer/half-winter dressed hiker displays the proper clothing to wear in exploring the Alaskan wilderness. Full-scale mounts of the major large mammals in the state loom over visitors as they view video programs or read captions on the displays.

In the Fairbanks Center, exhibit panels on history, public lands, weather, wildlife and vegetation, and natural resources gives a broader understanding of these subjects to students.

The ANILCA legislation also encourages the Centers to "serve as a vehicle to stimulate environmental education in the local communities throughout the year," and "as educational centers for visitors as well as local public school and university systems."

Assistant Managers in both the Anchorage and Fairbanks Centers are responsible for developing environmental and education support and programming for the local communities and surrounding bush areas. Early efforts focused on utilizing the Centers as field trip destinations by encouraging classroom and group visitation. Worksheets were designed to complement individual displays and require more in-depth student or youth participation in a Center visit.

As visitation grew, the Assistant Managers focused on local community environmental education needs. In Anchorage, a curriculum was developed to correlate with the local school district's science kits and encourage the study of seven local habitats. Teacher workshops in various agency-sponsored curricula (e g, Project WILD, Project Learning Tree) were then emphasized to use the spread effect of working with groups of teachers who then work with many more students.

In Fairbanks, efforts focused on working cooperatively with existing programs in the local school district and with teacher training programs at the University of Alaska-Fairbanks. When the local district eliminated the outdoor education program, classroom visits and outreach became a focus to provide a needed service and to encourage visitation to the Center.

Other services that have been developed at the Centers are film and video loans, teaching kits, and a resource loan library at one of the Centers. Programs targeted to adult audiences and families have been developed to attract repeat visitors.

The Assistant Managers network with other personnel responsible for education and outreach from the participating agencies and are active with local and state environmental education organizations. They regularly participate in related curriculum review and development projects.

Environmental education in the context of an interagency operation presents many challenges and opportunities. Interpretive and educational programs must be balanced in their context and not favor one viewpoint or agency over another. Where conflicts exist between agency mandates (e g, multiple use vs preservation), these conflicts must be presented as the reality of resource management in today's world. We all have the potential to use wilderness, wood products, mineral products, and fish and wildlife resources.

Opportunities exist in trying to get agencies to cooperate with each other in coordinating common informationnl/educational projects and initiatives. The benefits can be less duplication and public confusion, and a clearer message on the importance of stewardship of public lands and their resources.

In these days of tighter budgets and greater demands placed on public agencies, the model of cooperative interagency information centers is one to investigate.

The National Park Service/Lower Merion High School Summer Intern Program In Archeology

Dr David G Orr
Regional Archeologist
Mid-Atlantic Region
Stephen C McCarter
Lower Merion High School
Ardmore, Pennsylvania

The Mid-Atlantic Region of the National Park Service and the Lower Merion School District of Ardmore, Pennsylvania, have conducted a joint archeological program each summer for the past nine years. This experience has given more than 140 high school students the opportunity to work with professional archeologists and graduate students at sites in Virginia and Pennsylvania. In addition, the intern program led to a joint high school archeological exchange to the People's Republic of China during the summer of 1988.

As a result of these programs various observations and methods evolved that may be of use to other professionals working with high school students.

Modeled after a similar program which they instituted in 1975 under a National Endowment for the Humanities Educational Grant, Dr David Orr of the NPS Mid-Atlantic Regional Office and Stephen McCarter of Lower Merion High School created an NPS student intern archeological program in 1980 designed to:

1. Establish a holistic anthropologically based concept for the program that demonstrates how archeology works in concert with other disciplines.

2. Provide the opportunity for students to learn archeology in a tightly controlled situation emphasizing the importance of site supervision.

3. Develop sensitivity to cultural resources management.

4. Create a model for a participatory or "hands-on" approach to learning.

5. Provide an effective cost savings to excavation undertaken by the federal government.

Following the above guidelines, Orr and McCarter developed a research design taking into consideration the needs of a pre-selected site at Rose Farm in Gettysburg National Battlefield and the capabilities of fourteen Lower Merion juniors and seniors. The first three-week program began with a week of intense introduction at Lower Merion High School and at Park Service facilities in the Philadelphia area. Some of the topics stressed were an overview of the Civil War, archeological methods, material culture of the period, and ceramic identification.

After the orientation the students participated in two weeks of excavation in the kitchen area of a farmhouse being restored on Rose Farm. Each day of excavation concluded with an evening program related to the park. Among the grist for student discussion and criticism were vernacular architecture, the history of the Gettysburg region and the trauma of war. A park historian gave the students an excellent topographical tour of the battlefield which brought into focus all of the above subjects.

The programs during 1982-87 included projects at Petersburg National Battlefield (the General Grant Cabin Relocation Project at City Point), George Washington Birthplace National Historic Site, and Valley Forge National Historical Park.

The eighth program in 1988 contained two separate programs. The first was the traditional intern activity consisting of orientation and then participation in a very controlled excavation. Appomattox Court House National Historical Park furnished the site of the program's first phase. The historic town needed a more detailed survey of several sites left out of the archeological base map. Excavation resulted in the location of several structural features including the foundation of a smoke house associated with the Clover Hill Tavern.

Upon returning from Appomattox, the fourteen high school students from Lower Merion High School and Harriton High School, also in Lower Merion, departed for the People's Republic of China to participate in the first Youth Science Exchange between the United States and China. Led by Dr David Orr, Stephen McCarter and Joanne Lanoutte, an anthropology teacher at Sidwell Friends School in Washington, DC., the full delegation of 36 students spent 23 days examining archeological sites in China, including the Peking Man site at Choukoutien, Ming Tombs near Beijing, excavations at Huaqing Hot Springs and Qin dynasty tomb sites near Xian, and the on-site museum detailing the excavations of the 2100 year old tomb of Emperor Wen in Guangzhou.

The highlight of the China trip was student participation in a Han dynasty tomb excavation in Changsha. In front of several Changsha Museum archeologists, local officials, and scores of curious local residents, the students became the first A. ıericans to "dig" in China since the 1930s. During the brief two-hour excavation, the group was able to assist in the uncovering of many artifacts from the robbed tomb site, including part of a tripod vessel known as a ding.

Like all of the programs previously undertaken, this one was also designed with a broad inter-disciplinary and ethnographic perspective. Dr Huang of the Changsha Museum led the students on an investigation of ceramic sites that included a visit to a recently discovered Tang Dynasty kiln site that encompassed over 30,000 square meters. More than ten dragon kilns dating from 600 AD to 1000 AD were found at the site along with millions of sherds. A visit to a working dragon kiln of the same style helped the students gain an ethno-historical perspective of the archeological site they had first visited. Additionally, the walk through the rural Chinese countryside necessary to gain access to the site, passed through several traditional rice farms. The material world of these farms was explained to the students as they observed an immediate and powerful visual lesson in the continuity of tradition amongst change in central China.

The most recent intern program was centered on Fredericksburg National Battlefield during the summer of 1989. The students' efforts were instrumental in locating the Widow Tapp farmhouse that served as one of Lee's command centers during the Battle of the Wilderness in 1864. Here, clusters of artifacts responding to clearly defined domestic functions as well as architectural rem-

nants revealed social status and violent disruption in mid-nineteenth century Virginia.

The success of these intern programs directly resulted from the strict adherence to the second goal outlined earlier. At all times the principle that the research determines the need for the volunteers, not the volunteers determining the need for archeology, guided the program. Each of the previously described intern projects, with the exception of the China visit, was designed with the archeological needs of the Park Service at the forefront. Only after the identification of specific needs, were the volunteer interns meshed with selected archeological projects. The goals were always limited, taking into account the time allotted to the program and the varying abilities of the participants. Instruction was given on an individual basis, with a ratio of students to instructors set no higher than four to one. Additionally, all sites were carefully selected not to present insurmountable methodological problems. For example, sifting through the top soil at Conway's Brigade (Valley Forge) or ploughed field surveying (Fredericksburg) were procedures easily communicated to the beginning student. Feature recognition and layer separation were closely monitored by the professional archeologists at all times.

To emphasize student participation in a project of national significance all interns were designated as VIPs and were awarded certificates by the park Superintendent in a special ceremony at the conclusion of the summer programs.

The model created by the intern program involves a cooperation between professionals and volunteers that clearly defines their respective roles. All historical research is conducted by the professional staff of the Park Service. The training and excavations are directed by the professional staff with the assistance of the volunteers. The lab work and analysis is the primary responsibility of the professional staff; however, the volunteers are able to give assistance in many areas such as washing, restoration, and cataloging. Reporting is carried out by the Park Service professionals.

The student intern program made a direct influence on the National Park Service by acting as a model for a larger adult program first introduced at Valley Forge in 1986. This program has experienced great success in involving more than two hundred volunteers in its two-year duration. Each adult volunteer had to agree to work at least one week and to attend a special field orientation session. A full summer's lecture program provided a broader perspective and amplified the holistic goals of the excavation. The three-week student program worked in concert with the adult program at Valley Forge.

The NPS/LMHS Intern Program has also provided significant cost reductions to the National Park Service. The George Washington Birthplace National Historic Site projects saved the federal government approximately $20,000. All of the projects involved similar cost savings. This has been an important component in the partnership, especially in the current atmosphere of fiscal restraint.

At Appomattox Court House National Historical Park students not only excavated, but acted as interpreters for a large daily tourist

visitation. The students worked at the center of the historic area and consequently, were viewed by an interested public throughout the duration of the project. In the words of park Superintendent John Montgomery, "The Appomattox archeological project was a success thanks to the students' efforts and perseverance .... The information gained from the project helps us better understand the village and to locate foundations for building sites."

During the nine-year life of this program an effort has been made to track the subsequent careers of student participants. Many have chosen anthropology and related professions as a direct result of their involvement in the intern program. Others have expressed their satisfaction in having had the opportunity to understand and appreciate the role of archeology in both education and preservation. All of the students have gained a considerable awareness of the need to properly conserve archeological sites and to communicate to the general public their associative humanistic and scientific values.

Education In the Parks: Programming For Excellence In the '90s

Dr Edward Jay Pershey
Director, Tsongas Industrial History Center
Lowell, Massachusetts

When President Bush declared himself to be the "Education President," even before his administration did anything specifically for education in America, this simple statement focused the attention of the general public on the opportunities and problems in the schools. The press, television and radio have been loaded with features which decry American student performance, champion the work of dedicated teachers, and point to the many shortcomings of facilities and programs. How long this present intense focus will last is unclear, but what is clear is that the future of the country lies squarely in its ability to provide meaningful education for its children. Regardless of media hype or the lack of it, education in America can never be put on the back burner as a "solved problem." As society changes each generation must renew its commitment to the education of its children.

This current focus on education in America affords the National Park Service a splendid opportunity to respond to one of the largest users of the National Park System: school groups and school age children. Hundreds of thousands, perhaps millions, of school children visit the parks each year, usually with their classes as part of their curriculum in social studies or science. While the National Park Service has excelled at providing interpretation of natural and cultural sites to the general public, its approach to education in the parks has, even when effective, been largely viewed as a **subset** of visitor services. Tours provided to school groups are often the same as those offered to the general public. Pre- and post-visit materials are sporadic and usually produced in-house by rangers, who, unless they are seasonal employees with regular jobs as teachers, have little if any formal training in education and curriculum development.

There is clearly a growing consensus within the National Park Service of the need for improved employee training opportunities in

order to stimulate the development of new educational programming and to improve on current efforts. The Park Service's own employee training programs do not address educational issues as a separate topic. Only one regional, but no National, training courses are devoted specifically to the development of education programs, the production of educational materials, or the importance of contacting and working with schools and teachers.[1] While rangers are not expected to be able to develop strong interpretive, safety, law enforcement, or resource management plans without National Park Service training, the development of educational programs and materials is left to local initiatives.

From my own experience I have seen this haphazard approach play itself out. For instance, the Edison National Historic Site in West Orange, NJ, is the focus of many, many school visits, since Thomas Edison is the prime topic in the **mandated** New Jersey history course at the fifth grade level. Throughout the year, thousands of school children paraded past the door of my office.[2] Yet limited funding and other interpretive priorities relegated any educational programs to small scale efforts done "in between tours" in rangers' spare time. Money, in small dribs and drabs, came from Eastern National accounts or local donors. I suspect that this scenario is repeated at many more parks, especially the smaller sites, both urban and rural, with limited staff and resources.

Although not widespread, there are several local initiatives in educational programming at the park level. These may rely on concessionaires providing the programming and materials, rather than in-house expertise. Examples in some of the coastal parks in California are primarily focused on environmental studies. Except for the work of the Tsongas Center at Lowell National Historical Park, few, if any, deal with cultural resources or historical topics. These local successes in education throughout the National Park Service need to be made known to other parks, to act as role models for further local initiatives. In addition, training at the regional and national levels can also be modeled on these local efforts.

On the other hand, some large scale curriculum efforts have been attempted before as part of previous multi-year initiatives. The end product of these efforts has usually been extensive binders, filled with printed material on natural science and environmental issues. While done professionally, these compendiums pose the same questions as do curriculum materials produced by our fellow museum professionals outside of the Park Service. What is a teacher to do with all that material and information? How is it to be incorporated into current curriculum? Who decides what teachers want to have developed? More often than not, this material ends up on the teacher's or ranger's shelf, never used in a concerted way and soon even forgotten as a resource. Our offices and schools are filled with the remains of these curriculum projects, and just as filled with staff unprepared to use them and teachers

[1] Editors' Note: A new course, "Developing NPS Education Programs" is scheduled for FY91.

[2] I was Supervisory Museum Curator at the Edison site from 1981 until 1987. My office opened out onto the main tour route, just across from the historic Edison library.

unaware of the existence of the materials. This sort of waste must stop if we are to optimize resources for improving education in America.

The Tsongas Industrial Center in Lowell, Massachusetts, is an excellent role model for the development of educational training and programming in the National Park Service. The Center is a joint venture of Lowell National Historical Park and the College of Education, University of Lowell. Soon to be housed in 15,000 square feet of space at the park's new Boott Mills Museum in downtown Lowell, the Center has an operating budget which is provided by the Commonwealth of Massachusetts. Through a Memorandum of Agreement between the National Park Service and the University of Lowell, the Tsongas Center will develop educational programming based on the Lowell National Historical Park's themes in the broad topical area of the industrialization of America and interact directly, through its museum exhibits, with school groups visiting the park. The Center is part interactive museum, part resource center, and part teacher training institute. Started in October of 1987, the Tsongas Center has been particularly successful in its teacher training programs, securing a large National Science Foundation grant of $323,000 to run a two-year project for high school teachers and developing a similar project for middle school and junior high teachers.

The Tsongas Center, while focused on industrial history and urban topics, has developed an approach to working with schools and school systems which can be applied to the parks throughout the National Park Service. By offering teacher training programs and by using advisory boards composed of local area teachers, the Center has been able to be responsive to real educational needs. The Center approaches program development as a mutual effort with teachers, rather than as a one-way mirror in which the "experts" at the Center prepare materials and programs for use by the teacher. The Center listens carefully to teachers' suggestions for both topics and techniques, works with the teachers to develop new ideas, and then acts as a long-term support system for helping the teachers to introduce new ideas into and implement new techniques within their curriculum. This approach produces a strong foundation for long-term mutual development. Programs derived from this approach have several important features:

- teacher "ownership" and involvement
- strong ties to current curricula
- school system administrative support
- direct ties to park/center mission
- opportunities for private/corporate assistance
- long-term support from the Center for teachers and schools
- access to the resources of a major university

While not all projects developed in this way can be guaranteed to have a lasting impact on the schools, the chances of producing something that will be shelved quickly after development are greatly reduced.

While the Center takes pride in its teacher-centered approach, it has also assumed regional and national leadership roles in the area of industrial history. The Tsongas Center is prepared on a National level to act as a resource for educational programs K-12 that wish to focus on issues of science, technology and society. The Na-

tional Science Foundation grant is a major component in the Center's long-term plans for providing teacher training and enhancement. This two-year cross-disciplinary project brings together high school teachers of history, science, mathematics, and technology education to study industrial society using history as a way of understanding science and math. The Center will continue to take this kind of innovative educational leadership.

I hope that the National Park Service is prepared to take a more ambitious approach to enhancing its educational programs. While the immediate results may not be elaborate printed publications, the long-term benefits will create a foundation for the National Park Service on which to build excellence in education during the 1990s and beyond.

Experiments In Education: The Golden Gate NRA Learning Laboratory

Marti Leicester
Chief, Interpretation
Golden Gate National
Recreation Area

LABORATORY: 1. a place...of experimental work, as in a science or art; workshop. 2. time spent at such a place, especially for educational purposes.

Golden Gate National Recreation Area is the most visited unit of the National Park System, and the natural and cultural diversity found in the park offers unlimited opportunities to teach urban residents about their environment and the significance of the area's history. San Franciscans can leave the financial district of the City and within eight to twenty minutes be walking through meadows of wildflowers within sight of deer, bobcat, fox, and butterflies. With more than 72,000 acres and 350 national historic landmark properties, GGNRA is a living; learning laboratory where dynamic experiments in education take place many times every day.

The sheer size and number of cultural properties at GGNRA make it imperative for park staff to find as many new and exciting ways as possible to bring educational programs and services to the public. Partnerships with a wide variety of agencies and organizations allow us to maintain the historic buildings in the park and expand our ability to deliver exciting programs compatible with the NPS educational mission. Today, although GGNRA Interpreters directly reach over 4 million people annually, approximately ninety percent of the educational programs available at the park are delivered by the non-profit organizations we call our Park Partners. Between the creative minds of the Rangers and the expertise and willingness to try all kinds of program ideas on the part of the Park Partners, people of all ages can experience a little of this and a lot of that as they sample the results of the wide diversity of learning experiences available throughout the park.

Visitor ages and interests are the most common beakers in which we brew our ideas to make learning fun and effective at GGNRA. School groups are a favorite audience for whom we develop programs because all of us, Rangers and Partners alike, are committed to the idea that young people will become the dedicated park supporters and preservationists of the future.

Due to staffing limitations, park programs for students are given on a reservation-only basis throughout the park. In an effort to expand opportunities for teachers and students to enjoy and learn, recent GGNRA educational efforts have focused on developing teacher guides and self-guiding activities that can be used by all ages. Interpreters are working with local teachers to develop learning materials and program ideas that are compatible with the statewide curriculum — a new skill for most Park Rangers! By the end of 1990, we plan to have curricula designed for kindergarten through high school for Alcatraz and Muir Woods. At Fort Point NHS, a Civil War fort, we continue the Environmental Living Program started in 1973. Here, children and teachers spend most of the school year learning in their classrooms about the life of a Civil War soldier stationed at the western edge of the United States. For one never-to-be-forgotten overnight at the end of the school year, students, teachers, and a few lucky parents stay at the fort, acting the roles of the people who lived there over one hundred years ago. The motto for the program is, "I hear and I forget. I see and I remember. I do and I understand."

Experiential learning, the kind of learning you "do," is the learning most likely to be remembered and most likely to lead to an appreciation of our environment and culture. For the Park Partners, it is the focus for all their programs. In San Francisco, on the shore of the Pacific Ocean, the San Francisco Unified School District has established an outdoor learning school for sixth grade students, all of whom spend three nights and four days exploring beaches, tide pools, coastal chaparral foothills, seacoast defense systems that date from 1776 to the 1960s, and the remnants of the first resort area for San Francisco—the Cliff House and the Sutro Gardens.

Across the San Francisco Bay in Marin County, the Headlands Institute offers a five-day field science residential program for school groups of any age. In 1989, GGNRA students participating in programs at the Institute worked with GGNRA Resource Management Specialists on a bobcat study. Students gained the rudimentary skills needed for biology field studies and the park gained new baseline data on this elusive mammal. The Headlands Institute also offers the CoastLab, a fully equipped science study laboratory and the Discovery Room, which offers models and interactive exhibits as well as simulated demonstrations of ecological concepts. Both facilities are also open to the public.

As you can guess, students and teachers aren't the only groups welcomed to the park with specialized programs. The GGNRA learning laboratory is open to anyone with a healthy sense of curiosity! Recently, interpreters have developed self-guiding booklets for tour bus drivers so the brief histories they hurl past their hapless passengers can be as accurate and informative as possible. As a result, we've noticed that many of the tours are now spending more time in the park! At Muir Woods, families and community groups like Scouts or Elder Hostel participants, can check out "Junior Ranger" packs that offer activities for would-be rangers of any age to study a redwood forest with magnifying glasses, rulers, and a keen sense of observation.

Recently opened in the Marin Headlands is the Bay Area Discovery Museum, a children's museum chock full of interactive exhibits designed to stimulate children, their families and the young at heart to use their imaginations and experiment with familiar and unfamiliar

materials that introduce them to the themes of Bay, Boats, and Bridges (social history, technology, and the environment of the region). Museum visitors are encouraged to explore the area around the Museum on their own or with the Interpreters who offer outdoor programs that complement the themes exhibited inside.

For people interested in the arts as well as the sciences, the Headlands Center for the Arts explores new ways for artists to interact with the environment and the public. Programs include residencies for recognized artists in the fields of visual, literary, media and the performing arts. Educational programs for the general public relate these arts to the fields of ecology, history and natural sciences through seminars, workshops, a summer camp for teenagers, special events, and artist-guided tours of the Headlands. The Center has also developed an innovative arts and natural science curriculum for the schools.

Everyone's favorite programs, whether park staff or visitors, seem to be the ones that are hands-on and have visible results. Park Partners excel at offering programs that people return to again and again because of the deep feeling of satisfaction they gain by both enjoying themselves and helping to care for the park. At the California Marine Mammal Center, over 600 volunteers carry out the rescue and rehabilitation of seals, sea lions, and beached or injured whales and dolphins.

The Golden Gate National Park Association, the Cooperating Association for the park, manages the Golden Gate Raptor Observatory and the Habitat Restoration Team. Almost a hundred volunteers of all ages study the annual autumn migration of 19 different species of raptors. This flight of more than 10,000 birds across the Marin Headlands each year comprises the largest concentration of raptors on the northern Pacific Coast.

The hundreds of volunteers who work with the Habitat Restoration Team carry out a weekly schedule of alien plant eradication and native plant reseeding throughout the park. A similar program for the park beaches is Adopt-A-Beach, a cooperative program carried out between GGNRA and the Ocean Alliance with San Francisco schools. Each spring, students at all grade levels who have been studying marine biology come to clean up the beaches and study the impacts of solid waste on marine life and recreation resources. The San Francisco Conservation Corps and the Marin Conservation Corps are municipal conservation work programs for low income youth, 18-25 years old. Based on the Civilian Conservation Corps of the 1930s, many young city dwellers come to enjoy work projects that involve rebuilding and repairing park trails and buildings. Rangers frequently work with the crews to complete historic compliance evaluations, prepare work plans based on principles of resource management, or involve the crews in learning about the history of the areas in which they work.

Over and over again, the words "experiment," "discovery," and "laboratory" are used to describe the learning activities and programs available at GGNRA. While not mandatory for any program, participation and celebrating the delight of all five senses is usually so tempting that even the shyest youngster, most dignified teenager, or least athletic visitor has been observed kneeling on the ground, running after waves, or making bird calls. Hey—in a learning lab like GGNRA, you might want to experiment too!

About This Issue

Summer 1990

Interpretation is a combined effort of the Washington Division of Interpretation and the Regional Chiefs of Interpretation. The publication is edited and designed by the staff of the Interpretive Design Center at Harpers Ferry:
General Editor: Julia Holmaas
Technical Editor: J Scott Harmon
Designer: Phillip Musselwhite

Contributing Editors

Sandy Weber, Cultural Resources Interpretive Specialist, WASO
David Day, Interpretive Specialist (Historian), NARO

Forthcoming Issues

Autumn 1990: Interpreting Native American Culture
Winter 1991: Interpreting the Cultural and Built Landscape
Glenn Clark, Alaska Region
Corky Mayo, Pacific Northwest Region

Editor's Note

Your editors respectfully solicit the contribution of articles from the readers for forthcoming issues of ***Interpretation***. If you wish to submit an article for consideration, please contact one of the Contributing Editors identified under the subject issue.

In order to make ***Interpretation*** more truly a forum for the exchange of ideas among interpreters, we will include a selection of responses to articles in the form of Letters to the Editors. Please submit all letters to:
Editor, ***Interpretation***
% Washington Office, Division of Interpretation
Box 37127
Washington, DC 20013-7127

Service Center Report

North Atlantic

Initiatives implementation has been consuming a great deal of NAR time. Among these are Earth Day, education, 75th anniversary, and partnerships.

Ted Fowler, for example, of the Division of Interpretation worked with the Environmental Protection Agency to produce a special brochure for the twentieth anniversary of Earth Day titled "Waste Not, Want Not." The brochure will be distributed in NAR parks at EPA expense to highlight what individuals can do to protect the environment.

A "Developing Education Programs" course was held in February to instruct interpreters in dealing with NPS resources in a education context. Instruction focused on such topics as administering curriculum-based interpretive programs, designing curriculum, and establishing working relationships with teachers and schools. Four regions were represented.

A special joint meeting of five Regional skills teams was also held in March.

Mid-Atlantic

To foster natural science interest by teachers prior to park visits with students or as part of school curriculums, ASIS provides a set of 20 environmental flash cards. Also, the park's popular puppet show has been videotaped and is available for school presentations. AT BOWA, pre-tour packets provide information prior to park visits. Interpreters incorporate into tours information about Washington, the Borroughs Plantation, and farm life in the period detailing the sights, sounds and smells experienced on the plantation. Through role playing, GETTs Civil War Student Education Program examines the **Civil War Soldier** (motives for joining the Union Army), **Care of the Wounded** (the function of the Army Medical Department), and **Pickett's Charge** (the experiences and emotions of Confederate soldiers). At STEA planning is underway for the Lackawana Valley Heritage park, to package the historic, cultural, natural, and recreational values into a cohesive unit, through cultural attractions, reclamation, and parklands.

Denver

Through its planning, design, and construction activities the Denver Service Center has several projects that invite the development of educational programs and facilities. For example, the Central Team is currently involved in the design and construction of the environmental education center at Cuyahoga Valley National Recreation Area and the Big Woods Environmental Education Center at Jean Lafitte national Historical Park.

The Cuyahoga facility will use mostly existing structures to house a 120-bed center

The Big Woods center will be located in the Barataria unit of Jean Lafitte. Flexibility is the key to the center's design, and the activities will relate to school curricula. The activities will also consider scout badge requirements, interests of the general public, and key environmental issues of the area.

A common educational goal of these environmental centers is to increase awareness and knowledge of the natural and cultural history of the area, of ecological relationships, and of resource management issues.

Southeast

Recently, the interpretive staff in Southeast Region initiated a unique region-wide educational outreach program. It is designed to meet strict education objectives passed recently by the Georgia legislature. The situation presented us with a significant opportunity to redefine the Service's education role in the Southeast. To meet this challenge, the entire program will speak the language—themes, topics, and objectives—created by the Georgia legislation.

How will the program be developed? To start, Southeast Region will produce an educational resource catalog for its 57 parks. Next, curriculum guide specialists from the state will incorporate park information in classroom guidelines. The product will be delivered to teachers in staff development workshops. Both the Georgia school system and the Service should profit through restructured and improved on-site visits and the adoption of this formal, long-term, educational partnership. Watch this column for news of future developments.

National Capitol

A new Interpretive Skills Training Team has been formed with new members Jane Anderson, John Fiedor, Beth Hagler-Martin, Rick Martin, Will Morris and Rick Wilt joining old-timers Mary Mallen and Walter McDowney. The team presented their first Interpretive Skills I training course at Wolf Trap Farm Park for a class of 21. The Region's Seminar Series joined with the Virginia Council for the Environment for a 3-day environmental education workshop in Wakefield, VA.

Prince William Forest Park is the winner of this year's Potomac Heritage Award. The prize is money and FTE for a summer seasonal. Congratulations to Barb Burchett and staff.

Winnie Frost, Interpretive Planner, has transferred to the Harpers Ferry Center and recruitment is underway for her replacement. Sam Vaughn, Interpretive Specialist, has moved to the Denver Service Center. Sam's replacement, Bill Gwaltney, transferred from Bent's Old Fort to the Regional Office in May. Maxine Snowden has come on board as Education Specialist.

Harpers Ferry

The HFC staff is taking a look into how we communicate to the diverse audiences that visit National Parks. In September the first phase of a course entitled "Just Who do you think you're talking to?" will be presented. The session will look at the work of the Center from the perspective of several visitor segments including children, the elderly, and disabled visitors.

Highlights of the course will be presentations by a designer from the Indianapolis Children's Museum and a trip to the Smithsonian Institution's "Information Age" exhibit.

Subsequent phases of the course will examine the subject of gender and cultural diversity. It will include listening to "other voices" not typically included in the planning and design process.

was a member of the National Seashore Survey Team and then moved on to Independence. From Philadelphia he went to San Francisco as a part of the Historic Sites Survey Team. He headed the research team at Jefferson National Expansion Memorial that wrote the mighty story of Westward Expansion. In Washington, he distinguished himself as Assistant Director of Interpretation, Director of the Harpers Ferry Interpretive Design Center, and retired from the position of Assistant for Policy to Director Bill Whalen.

Bill has written the most definitive, authoritative story of the National Park Service. For anyone who wishes to understand our roots and who we are today, his book—*The National Park Service*—is must reading.

Along the way Bill had a great vision—if Interpretation is music at Wolf Trap; theatre at Fords; nature walks at Yellowstone; lectures at Yosemite; sculpture at Saint-Gaudens; films at the Gateway Arch: Why not bring the artists together in one team at this historic place to plan and design interpretative programs? It was an imaginative and daring concept! Could one really construct a building large enough and strong enough to survive the chemical reactions of all that talent in one place at the same time? Well, like Mather's experiments with Education and Information, Bill's concept for an Interpretive Design Center has succeeded beyond our wildest dreams. The NPS has here the largest concentration of the most talented, creative artists and communicators in the nation. Individually and collectively they have won more plaudits and awards than there is wall space to display them. And at only twenty years of age, the best is yet to be.

It is appropriate that we recognize, at this memorial to Stephen Mather, the founder of the National Park Service and the father of Park Interpretation, the achievements of Bill Everhart in expanding the role and meaning of Park Interpretation.

It gives me great pleasure to re-dedicate this Center as the William C Everhart Interpretive Design Center. Congratulations, Bill!

Thank you, Ladies and Gentlemen.

An Interpreter's Resource: Using The National Register Of Historic Places To Enrich Interpretation

Amy P. Federman
Historian
National Register of Historic Places
Interagency Resources Division, WASO

Recent articles of this publication addressing the link between education and interpretation stress that education of the public, whether in a classroom or a mountain meadow, is the key to the survival of our national resources. Documentation from the National Register of Historic Places, a data base of almost 56,000 properties managed by the Washington Office of the National Park Service (WASO) can assist interpreters facing the challenges of strengthening the links between research and interpretation with limited funds. This documentation provides thoroughly researched and documented information on historic places to supplement interpretative programs and can, in the longer term, work to further

the goals of heritage education by broadening the awareness of visitors to important resources of our past across the country.

The National Register today includes records of significant buildings, sites, structures, objects and districts important at the local, state, and national level. Compiled over the 25 year history of the National Register by agencies such as the Park Service and State Historic Preservation Officers, these records are stored in a data base format which can be searched by theme, local area, and time period to identify records of interest to interpreters and the public.

Information has been collected, for example, on historic resources which place the story of the Park Service unit into its historic context. A data base search could identify historic resources adjacent to the unit's boundaries which carry the themes identified in the park unit. Visitors can also easily receive information on related Park Service sites across the country.

Ways the information might be used include:

1. Making information available to visitors about National Register of Historic Places listings for areas adjacent to the park to recommend to visitors what other properties might be available to visit.

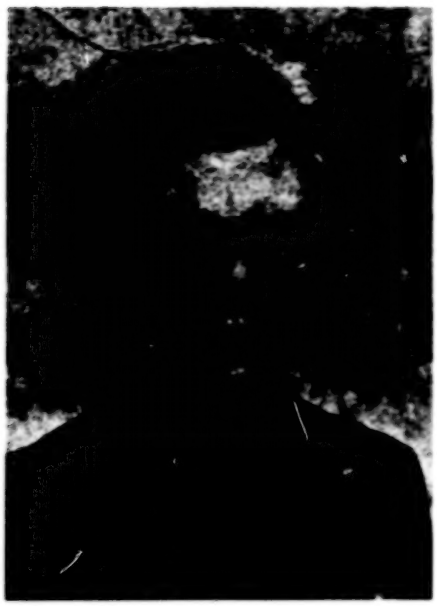
2. Accessing National Register listings for properties with themes similar to those interpreted in the unit and using information on these places as part of interpretative exhibits and oral programs.

Please contact Amy Federman, Historian, National Register Branch, Interagency Resources Division, WASO, at (202) 343-9536 for copies of:

- National Register forms, including descriptions and statements of significance on National Register listings
- Lists of National Register properties searched in a data base format by theme, time period, geographic area or other categories available through the National Register data base.
- Information on how to access the National Register data base from the field directly.
- Specialized information on how to recognize special types of historic properties such as designed and rural landscapes, maritime resources, properties less than 50 years old, and traditional cultural properties.
- Slide shows and other materials describing the criteria for placing properties on the National Register.
- The complete volume of National Register listings from 1966-1988. This volume is available from the American Association of State and Local History at 172 Second Avenue North, Suite 202, Nashville, Tennessee.

The National Register Branch of the Interagency Resources Division is also working closely with the Division of Interpretation to thoroughly review interpreter's needs and develop ways to package the information so it will be even more accessible to interpreters. We are also continuing to collect information on creative ways these materials are and can be used to further the interpreter's mission. Please contact us at (202) 343-9541 with suggestions on ways to integrate these ideas into ongoing operations.

John Ethridge



I felt a profound loss when I read the June 21 Ranger Activities Division Morning Report which reported from Zion National Park:

... seasonal Park Ranger John Ethridge, 40, was killed yesterday when he lost his footing on a trail in Hidden Canyon and fell off a cliff. Ethridge finished leading a group on a nature hike at 10:30 am; when he turned to address the group, a rock slipped from under his feet, causing him to fall 150' to 175' to his death. Park personnel reached the body about an hour later, and Ethridge was pronounced dead at that time. Ethridge had worked in all divisions of the park and had served as a law enforcement ranger, backcountry ranger, fire control officer, and maintenance worker. He was working as an interpretive ranger at the time of his death.

Although I never met John, I feel I knew him. The sense of "family" still exists in the National Park Service, and all NPS employees, especially interpreters, experience a shared grief in John's death.

Tim Manns, Chief of Interpretation at Zion and John's supervisor, writes:

I got to know John during the past winter, and in February, just before he left to spend some time with his family and friends, he asked if I would consider hiring him as an interpreter for the coming summer. I immediately said I would like him to work with us. John's very thorough knowledge of the park and his gentle, outgoing, and humorous personality clearly suited him well for helping visitors and interpreting Zion. ... John's personality made him the friend of everyone who worked with him in Zion and of the many visitors he helped there. ... For John, Zion was more than a place to understand scientifically and more than a setting for physical challenges. I think those that knew him better than I might say that he had come to see other meanings in the place. I believe that the evolution in his relationship with the place "Zion" brought him to interpretation.

It is rare for an interpreter or visitor to be injured or lose a life during an interpretive program, yet it happens as evidenced at Zion. Some of us will recall the freak death of an interpreter at Casa Grande during an interpretive walk in the 1970s when he was killed by a stray bullet from a hunter's rifle. Visitors were lost during a ranger-led interpretive walk to a Mt Rainier glacier in the 1960s when rocks fell from a cliff.

As we reflect about John Ethridge's tragic accident, remember that **all** of us are vulnerable, not just employees who are in law enforcement, search and rescue positions, or the like. We **all** must constantly evaluate such vulnerabilities and do all that is possible to prevent them from occurring.

John Ethridge's contributions to the National Park Mission are etched in the minds of visitors who participated in his interpretive programs. When they recall the great experiences they had at Zion with one very special Park Ranger, they celebrate John's life and career. His legacy is assured because of this.

The John Ethridge Memorial Fund has been established at Zion to fund projects at Zion that reflect John's interests. Contributions can be made care of the Zion Natural History Association, Zion National Park, Springdale, Utah 84767.

Michael D Watson
Chief, Division of Interpretation, WASO

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